UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY KANSAS 66115

075B
Site Elliott Shooting Par
ID# MOD980916833
Break 2.3
Other SE
7-25 86

DATE July 25, 1986

MEMORANDUM

SUBJECT Elliott's Shooting Park, Raytown, Missouri

FROM Charles P Hensley CPH
Chief, EP&R/ENSV

TO Robert L Morby
Chief, SPFD/WSTM

Attached for your review is

_ Data Transmittal

_ Work Plan

_ Trip Report

_ Preliminary Assessment

_ HRS Form with Supporting Documentation

_ Final Report of Site Investigation

X Interim Status Report

If you have any questions or comments, please contact Paul Doherty at 236-3888

Attachments

cc _ E&E

_ LABO

_ EP&R

_ TOPE

_ RCRA

_ SPFD

_ EMCM

_

John C Wicklund
Director, ENSV

JUL 30 1986

ecology and environment, inc.
FAIRWAY WEST OFFICE BLDG 4350 SHAWNEE MISSION PARKWAY SHAWNEE MISSION KS 66205 TEL 913 432 9961
International Specialists in the Environment

MEMORANDUM

TO Paul Doherty, ARPO

FROM Clark Gunion, REM/FIT

DATE July 24, 1986

SUBJECT Status Report for the soil sampling at Elliott Shooting Park in Raytown, Missouri, TDD# R-07-8604-13

I INTRODUCTION

The Elliott Shooting Park operated as a trap and skeet range for over 50 years in the Raytown area During this period, lead shot accumulated in the soil over much of the park's 30 acres Commercial mining of the park had periodically removed several tons of lead in the past years Recent economic hardship caused the park to be foreclosed upon by Boatmens Bank of Raytown It was learned through anonymous sources that the bank was planning to develop the land containing the park for residential housing The U S Environmental Protection Agency (EPA) became concerned about hazards that residual lead could pose to the public Taking heed of the EPA's concern, Boatmens Bank hired Burns & McDonnell Engineers-Architects to design a plan to remove the lead A criterion of 500 parts per million lead in the soil was the clean-up standard set forth by the EPA

The clean-up work called for by the design was subcontracted to the Kingston Construction Company of Kansas City, Missouri The Ecology and Environment Field Investigation Team (E&E/FIT) was tasked by the EPA to monitor the clean-up for compliance with the EPA criterion E&E/FIT has monitored the clean-up operation and collected soil samples for metals analysis and EP toxicity

SITE ACTIVITIES

Kingston Construction Company began clean-up operations on May 29, 1986 The soil to be cleaned up was tilled and placed into a large holding pile A lead mining machine is currently being used to process the soil and remove the lead The processed soil is then placed in a separate area for later replacement to the tilled area Approximately 800 cubic yards of soil have been processed and 60 tons of lead removed The collected lead remains on-site in 55 gallon drums Five samples (sample series BKJ5B) were collected from the holding pile, the tilled area, the processed soil and an adjacent property downgradient where some of the lead has migrated via surface

water run-off (see Figure 1) Table 1 below shows the lead concentration in the soil samples collected Sample #BKJ5B004 is well under the criterion of 500 ppm The other four samples are well over the criterion With the exception of the unprocessed soil from the holding pile, samples passed EP toxicity According to 40 CFR Part 261 Subpart C of the Federal Register, lead should not exceed 5 0 parts per million for the EP toxicity test

Table 1
Lead Concentration in Soil Samples
Collected from Elliott Shooting Park
June 18, 1986

Sample #	Location	Concentration Lead (ppm)	EP Toxicity Lead (ppm)	Sample Method	Depth	#1 Aliquots
BKJ5B001	Holding pile (unprocessed)	13,000	270	Composite	0-2"	5
BKJ5B002	Processed soil	1,600	0 290	Composite	0-2"	5
BKJ5B003	Adjacent property	1,300	2 80	Composite	0-2"	5
BKJ5B004	West tilled area	190	0 600	Composite	0-2"	5
BKJ5B005	North tilled area	15,000	3 40	Composite	0-2"	5

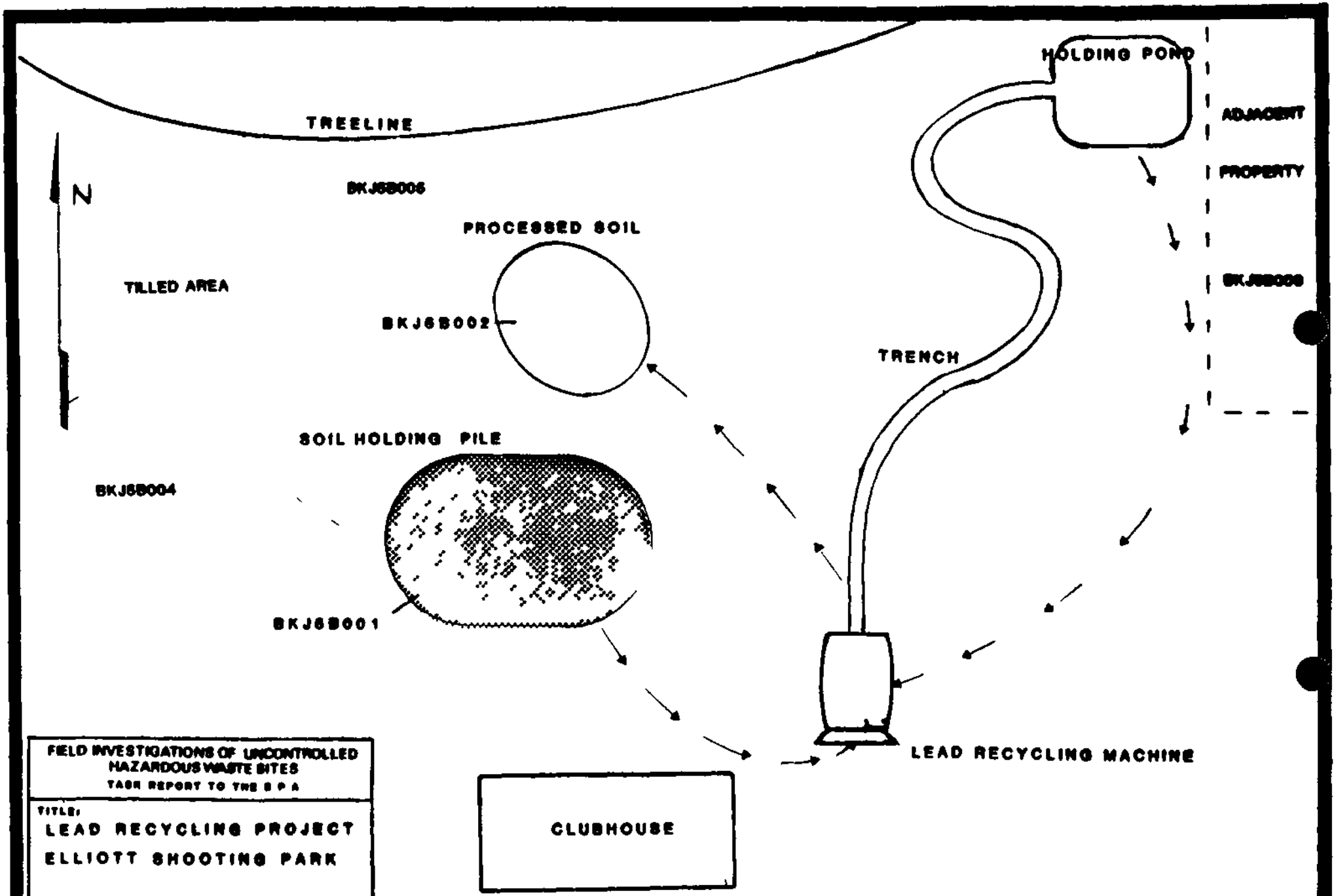
Soil samples were collected in aluminum pans with stainless steel spoons, composited and placed into 8 ounce glass jars All samples were collected at a depth of 0 to 2 inches and in five aliquots The samples were delivered to the Region VII lab on June 18, 1986 To date, 59 hours have been used under R-07-8604-13

CONCLUSIONS

The lead mining process has proven to be about 90 percent effective However, this does not satisfy the requirement of 500 ppm lead set forth by EPA EPA has requested Boatmens and Burns & McDonnell submit a plan outlining an acceptable clean-up for the park

For now, the on-site work will continue as originally planned until the submittal of a new plan for clean-up Kingston Construction is currently running two eight hour shifts on the Elliott site, 6 a m to 2 30 p m and 2 30 p m to 11 00 p m Gene Mayfield of Kingston estimates that the current schedule will involve two months of work on-site

The lead which has been collected will be sold to TCSR Industries of White Bear, Minnesota Transportation of the lead will be via Dalor Trucking Company which is owned by TCSR The lead will be melted and poured into castings used for ballast in industrial equipment


HOLDING POND
ADJACENT
PROPERTY
TREELINE
N
BKJSB005
PROCESSED SOIL
TILLED AREA
BKJSB002
TRENCH
SOIL HOLDING PILE
BKJSB004
BKJSB001
LEAD RECYCLING MACHINE
CLUBHOUSE
FIELD INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES
TASK REPORT TO THE E P A
TITLE:
LEAD RECYCLING PROJECT
ELLIOTT SHOOTING PARK
T o o R-07-8804-13
ecology and environment, inc.
SHAWNEE MISSION KANSAS
FIGURE 1
NOT TO SCALE

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION	SHEET
CLARK GUNION	ELLIOTT SHOOTING PARK	18 (DAY) 06 (MONTH) 86 (YEAR)	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	8 oz. BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt other sample numbers etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
BKJ5B001		1					✓				
BKJ5B002		1					✓				
BKJ6B003		1					✓				
BKJ5B004		1					✓				
BKJ5B005		1					✓				

RECEIVED
JUN 10 1986
E&EKCK

DESCRIPTION OF SHIPMENT

5 PIECE(S) CONSISTING OF 0 BOX(ES)

0 ICE CHEST(S) OTHER _____

MODE OF SHIPMENT

___ COMMERCIAL CARRIER _____

___ COURIER

___ SAMPLER CONVEYED _____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Clark N. Gunion ☐ SEALED ☐ UNSEALED	6/18/86	1221	☐ SEALED ☐ UNSEALED	TRANSPORT TO LAB
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE 6/19/86	TIME 1435	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY Delivery to LAB
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA 9262(Revised 5/85)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY KANSAS 66115

DATE June 25, 1986

MEMORANDUM

SUBJECT Elliott's Shooting Park, Paytown, Missouri

FROM Charles P Hensley
Chief, EP&R/ENSV

TO Robert L Morby
Chief, SPFD/WSTM

Attached for your review is

- [X] Data Transmittal
- [ ] Work Plan
- [ ] Trip Report
- [ ] Preliminary Assessment
- [ ] HRS Form with Supporting Documentation
- [ ] Final Report of Site Investigation
- [ ]

If you have any questions or comments, please contact Paul Doherty at 236-3888

Attachments

cc
- [X] E&E
- [ ] LABO
- [ ] EP&R
- [ ] TOPE
- [ ] RCRA
- [ ] SPFD
- [ ] EMCM
- [X] CDC, Ed Skowronski

John C Wicklund
Director, ENSV

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE 6-25-86

SUBJECT Transmittal of Laboratory Data

FROM Robert D Kleopfer, Ph D QOK
Chief, Laboratory Branch, ENSV

TO Hensley
Attn: Doherty

Analyses have been completed for the following activities and the data results are attached

Activity No	Description
BKJ5B	Elliott Shooting Park
	(complete transmittal)

Attachments

cc Data Files

EPA Form 1320-6 (Rev 3 76)

EPA REGION VII
DATA QUALIFICATION CODES

U - Compound was not detected

M - Compound was qualitatively identified, however, quantitative value is less than contract required detection limits (CLP data), or value is less than limit of quantitation (EPA data)

J - Compound was qualitatively identified, however, compound failed to meet all QA criteria and therefore is only an estimated value

I - Analysis attempted, but no results can be reported

O - Sample lost or not analyzed

L - Value known to be higher than value reported

FIELD SHEET

U S ENVIRONMENTAL PROTECTION AGENCY REGION VII
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK Site Number 5D
Location RAYTOWN MO Site Code

Collected YR 86 MO 06 Day 17 Time 0150 Leader CUNION

Sample Number BKJ5B001 SMO #

Sample Media (circle one)
~~Sample~~ SOIL DUST, RINSATE SEDIMENT WATER OTHER _

Sample Split (circle one) YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
8OZ JAR	WHITE	ice	TOTAL METALS

CP TOX

Depth — Pan # _ Aliquots 5

Samplers C. Gunion

COMMENTS OF FIELD PERSONNEL

Site Description

Holding pile of soil before processing
Interested Primarily in Lead OK

IBM PC

FIELD SHEET
U S ENVIRONMENTAL PROTECTION AGENCY REGION VII
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK Site Number 5B
Location RAYTOWN MO Site Code

Collected YR 86 MO 06 Day 18 Time 0245 Leader GUNION

Samole Number BKJ5B002 SMD #

Sample Media (circle one)
(SOIL), DUST, RINSATE, SEDIMENT, WATER OTHER _____

Sample Solit (circle one) YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
8OZ JAR	WHITE	ICE	TOTAL METALS EP TOX

Depth 0-2' Pan # _____ Aliquots 5

Samplers P Doherty

COMMENTS OF FIELD PERSONNEL

Site Description Processed soil pile

IBM-PC

FIELD SHEET

U S ENVIRONMENTAL PROTECTION AGENCY REGION VII
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name: ELLIOTT SHOOTING PARK | Site Number 5B
Location RAYTOWN MO | Site Code

Collected YR 86 MO 06 Day 18 Time 1230 Leader GUNION

Samole Number BKJ5B003 | SMO #

Sample Media (circle one)
(SOIL) DUST, RINSATE SEDIMENT, WATER OTHER _____

Sample Split (circle one) YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
8OZ JAR	WHITE	ice	TOTAL METALS EP Tox

Depth 0-2' Pan # _____ Aliquots 5

Samplers P. Doherty

COMMENTS OF FIELD PERSONNEL

Site Description NE corner of site near health club.

IBM-PC

FIELD SHEET

U S ENVIRONMENTAL PROTECTION AGENCY REGION VII
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK Site Number SB
Location RAYTOWN MO Site Code

Collected YR 86 MO 06 Day 18 Time 1245 Leader GUNION

Sample Number BKJSB004 SMO #

Sample Media (circle one)
(SOIL) DUST, RINSATE SEDIMENT WATER OTHER _____

Sample Split (circle one) YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
8OZ JAR	WHITE	/	TOTAL METALS
			EP TOX

Depth 0-2' Pan # _____ Aliquots 5

Samplers C. Gunion

COMMENTS OF FIELD PERSONNEL

Site Description West side of swamp area, 5 aliquots in 20' foot radius from center.

IBM-PC

FIELD SHEET
U S ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV 25 FUNSTON RD KANSAS CITY KS 66115

Site Name ELLIOTT SHOOTING PARK Site Number 5B
Location RAYTOWN MO Site Code

Collected YR 86 MO 06 Day 18 Time 1100 Leader GUNION

Samole Number BKJ5B005 SMO #

Sample Media (circle one)
(SOIL) DUST, RINSATE SEDIMENT WATER OTHER _____

Samole Solit (circle one) YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
8OZ JAR	WHITE	ice	TOTAL METALS EP TOX

Deoth 0-2' Pan # _____ Aliquots 5

Samolers C Gunon

COMMENTS OF FIELD PERSONNEL

Site Descriotion Center of sweep area, 5 aliquots in a 20 radius from center

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IBM-PC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
25 FUNSTON ROAD
KANSAS CITY KANSAS 66115

June 24, 1986

MEMORANDUM

SUBJECT Analysis of Samples from Elliott Shooting Range (Activity - BKJ5B)

FROM Gerald L McKinney GLM
Chemist, Laboratory Branch, ENSV

TO Paul Doherty
Section Chief, Site Investigation

We have completed the analysis of five samples from the above activity for total and EP metals Results are attached Duplicate analysis of the soil on samples -001 and -002 were outside our normal control limits for lead Due to the heterogeneity of the samples and the high lead values, I recommend the average of the two values be used to calculate % removal in the treatment process

Sample	Lab #	Pb (mg/kg)	Ave	% Pb Removal
Holding Pile	BKJ5B001	13,000	22,500	
Holding Pile	001L	32,000		91
Processed Pile	002	1,600	1,950	
Processed Pile	002L	2,300		

Because of the high values in the raw sample, the poor precision does not significantly alter the % removal Pellets which appeared to be lead shot were visible in several of the samples Also, note that arsenic and antimony were observed in these samples, although not at as significant levels as lead

EP Toxicity data indicated only lead on the holding pile sample met the criteria of a hazardous waste (5mg/l), although some arsenic and antimony was leachable

Sample -003 was marked as off-site, but was high in several of these metals Perhaps, resampling may be warranted to verify these results

ANALYSIS TYPE: TOTAL METALS

ITLE: ELLIOTT SHOOTING FARM
AB EPA REGION VII
AMPLE PREP: REP ANALYST/ENTRY. GS1 DRS

MATRIX: SEDIMENT
METHOD: 2001977
REVIEWER: GLM
DATE: 06/22/8[illegible]

SAMPLE NUMBERS

LEMENT	UNITS	BKJ5B001		BKJ5B002		BKJ5B003		BKJ5B00[illegible]	
SILVER	MG/KG	41		.2	U	.2	U	2	U
ALUMINUM	MG/KG	15000		14000		15000		1500[illegible]	
ARSENIC	MG/KG	200		22		16		10	
BARIUM	MG/KG	250		230		240		31	
BERYLLIUM	MG/KG	.78		.64		.76		[illegible]	
CADMIUM	MG/KG	1	U	1	U	1	U	1	[illegible]
COBALT	MG/KG	14		12		12		11	
CHROMIUM	MG/KG	12		11		13		1[illegible]	
COPPER	MG/KG	18		15		18		1[illegible]	
IRON	MG/KG	20000		18000		20000		220[illegible]	
MANGANESE	MG/KG	1000		1300		940		13[illegible]	
MOLYBDENUM	MG/KG	10		8.5		9.8		9.[illegible]	
NICKEL	MG/KG	2[illegible]		20		22		28	
LEAD	MG/KG	17000		1600		1300		19	
ANTIMONY	MG/KG	100		3.6		2.8		1	[illegible]
SELENIUM	MG/KG	10	U	10	U	10.	U	[illegible]	[illegible]
TITANIUM	MG/KG	N/A	I	N/A	I	N/A	I	N/A	[illegible]
THALLIUM	MG/KG	100	U	100	U	100	U	100	
VANADIUM	MG/KG	31		[illegible]		33		[illegible]	
ZINC	MG/KG	53		44		5[illegible]		[illegible]	
CALCIUM	MG/KG	2800		16000		3700		[illegible]	
MAGNESIUM	MG/KG	2800		2500		3000		[illegible]	
SODIUM	MG/KG	250		520		340		[illegible]	
POTASSIUM	MG/KG	1800		1500		1800		[illegible]	

ANALYSIS TYPE: TOTAL METALS

TITLE: ELLIOTT SHOOTING PARK
AB. EPA REGION III
SAMPLE PREF: BEF ANALYST/ENTRY: GS1
MATRIX: SEDIMENT
METHOD. 2001577
REVIEWER. _____ GLM
DATE: 06/23 8
DNS

SAMPLE NUMBERS

ELEMENT	UNITS	BKJ5B005	
SILVER	MG/KG	[illegible]	U
ALUMINUM	MG/KG	14000	
ARSENIC	MG/KG	110	
BARIUM	MG/KG	320	
BERYLLIUM	MG/KG	[illegible]	
CADMIUM	MG/KG	1	U
COBALT	MG/KG	11	
CHROMIUM	MG/KG	11	
COPPER	MG/KG	21	
IRON	MG/KG	22000	
MANGANESE	MG/KG	1100	
MOLYBDENUM	MG/KG	10	
NICKEL	MG/KG	2	
LEAD	MG/KG	150000	
ANTIMONY	MG/KG	33	
SELENIUM	MG/KG	10	U
TITANIUM	MG/KG	N/A	I
THALLIUM	MG/KG	100	U
VANADIUM	MG/KG	36	
ZINC	MG/KG	81	
CALCIUM	MG/KG	370	
MAGNESIUM	MG/KG	320	
SODIUM	MG/KG	[illegible]	
POTASSIUM	MG/KG	1600	

ANALYSIS TYPE EP TOXICITY

TLE ELLIOTT SHOOTING PARK   MATRIX: WATER
ЗP EP REGION VII   METHOD: 2001W77
MPLE PREP __GCS__ ANALYST ENTRY: GRS   REVIEWER: ___GLM___   DATE: 06/23/86

pms

SAMPLE NUMBERS

EMENT	UNITS	BKJ5B001		BKJ5B002		BKJ5B003		BKJ5B001	
[illegible]	UG	10	U	10	U	10	U	10	U
-SENIC	UG L	2000		50	U	250		80	
[illegible]	UG L	3500		370		750		580	
[illegible] U	UG L	5.	U	5.	U	5	U	5.	U
[illegible]	UG L	10	U	10	U	10.	U	10	U
[illegible]	UG L	2 0000		290		2800		600	
[illegible]	UG L	50	U	50	U	50	U	50	U

ANALYSIS TYPE: EP TOXICITY

ITLE ELLIOTT SHOOTING FARM　　　　MATRIX: WATER
AB: EPA REGION VII　　　　METHOD: 2001W77
MPLE PREP: GLM ANALYST/ENTRY: GRS MAS　　　　REVIEWER: GLM　　　　DATE: 06/23/86

SAMPLE NUMBERS

ELEMENT	UNITS	[illegible]	
[illegible]	UG/L	10	U
[illegible]ENIC	UG/L	2[illegible]	
[illegible]	UG/L	8[illegible]	
[illegible]	UG/L	5	U
[illegible]	UG/L	10	U
[illegible]	UG/L	31[illegible]	
[illegible]	UG/L	50	U